

REMARKS

I. Introduction

For the reasons set forth below, Applicants respectfully submit that all pending claims are patentable over the cited prior art references.

II. The Rejection Of Claims 1-6 Under 35 U.S.C. § 103

Claims 1-6 are rejected under 35 U.S.C. § 103 as being unpatentable over USP No. 5,162,860 to Nami in view of USP No. 6,274,282 to Sugimoto. Applicants respectfully request reconsideration of this rejection for at least the following reasons.

Claim 1

Claim 1 recites in-part a method of color correction for an image-outputting device comprising a coloring material combination determining step for determining a combination of the coloring materials with respect to variation of glossiness based on the relations obtained in the first through third relation obtaining steps.

In accordance with one exemplary embodiment of the present invention, lines representing combinations from K to C, from K to M, from K to Y, from K to R and from K to G are obtained based on the first relation obtaining step, second relation obtaining step and third relation obtaining step so that a range of color reproduction by the color printer 3 is determined for each of the obtained lines of combination. A table interpolation, as shown in Fig. 16 of Applicants' drawings, is thus obtained from these combinations of the range of color reproduction for the process of color correction (see, e.g., page 11, line 26 to page 12, line 28 of the specification). As a result, the

present invention advantageously provides a desirable color image by utilizing the effect of glossiness of the color materials and reducing the difference in glossiness of the reproduced images.

In the pending Office Action, the Examiner asserts that Nami discloses, in Fig. 9 and col. 10, lines 10-25, the foregoing coloring material combination determining step (see, page 3, line 6 of Office Action). However, contrary to the conclusion set forth in the pending rejection, at the cited portion, Nami discloses forming a tone image region A by cyan, magenta and yellow toners each having substantially the same softening point such that the glossiness of region A was made to be uniform, and forming a tone image region B by cyan, magenta, yellow and black toners in which the softening point of black is higher than that of the other colors and the rate of black color generation is reduced so as to change the glossiness of black characters in the region B. As such, Nami appears to only disclose determining the glossiness of the colors based on the colors' softening point and rate of color generation. Hence, Nami is silent with regard to determining a combination of the colors with respect to their respective glossiness variation. Indeed, Nami does not appear to discuss or recognize the glossiness of each of cyan, magenta and yellow, because the glossiness is changed by changing the rate of the black color generation (see, col. 6, lines 18-25 and col. 8, lines 5-11), let alone determining a color combination with respect to each of their glossiness variation. Sugimoto, on the other hand, merely discloses the relationship between the glossiness and the deposition amount of each color toner, and does not disclose or suggest determining a combination of cyan, magenta, yellow and black toners with respect to their respective glossiness. Therefore, Sugimoto also does not cure these defects of Nami.

Furthermore, as acknowledged by the Examiner, Nami is silent to providing a *first* relation obtaining step (see, page 3, lines 13-15 of Office Action). Thus, even assuming *arguendo* that Sugimoto recognizes a single relation obtaining step in the manner suggested by the Examiner,

Sugimoto does not provide any factual evidence that the alleged relation obtaining step of Sugimoto can be applied to the alleged coloring material combination determining step of Nami so as to arrive at the claimed invention.

Indeed, the Examiner's conclusion of obviousness is without any evidentiary foundation because Sugimoto's method requires determining the deposition amount and the glossiness of each color toner, while Nami requires determining the softening point of each color toner and the rate of black color generation to determine the overall glossiness. As such, modifying Nami in the manner suggested by the Examiner to utilize the deposition amount and glossiness of each color toner as is disclosed by Sugimoto would completely nullify the intended purpose and principle of operation of Nami.

It should be recognized that the fact that the prior art could be modified so as to result in the combination defined by the claims at bar would not have made the modification obvious unless the prior art suggests the desirability of the modification. *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986).

Moreover, recognizing after the fact that such a modification would provide an improvement or advantage, without suggestion thereof by the prior art, rather than dictating a conclusion of obviousness, is an indication of improper application of hindsight considerations. Simplicity and hindsight are not proper criteria for resolving obviousness. *In re Warner*, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967).

It is only Applicants' disclosure that discloses the foregoing coloring material combination determining step. Neither Nami nor Sugimoto disclose or suggest such a method. Thus, the only motivation of record for the proposed modification of the method of Nami to arrive at the claimed invention is found in Applicants' disclosure which, of course, may not properly be relied upon to

support the ultimate legal conclusion of obviousness under 35 U.S.C. § 103. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 2271 USPQ2d 1593 (Fed. Cir. 1987).

Thus, for at least these reasons, Nami does not disclose or suggest a method of color correction for an image-outputting device comprising a coloring material combination determining step for determining a combination of the coloring materials with respect to variation of glossiness based on the relations obtained in the first through third relation obtaining steps, as recited by claim 1.

Claims 2 and 3

Claims 2 and 3 recite in-part a method of color correction for an image-outputting device and a method of color correction for an image-outputting device for outputting an image using a combination of four primary printing colors, the method comprising a glossiness estimation step for estimating glossiness where two or more of the coloring materials are mixed by using the glossiness obtained for each of the coloring materials.

In accordance with one exemplary embodiment of the present invention, the glossiness of the mixed colors is estimated based on the glossiness of each toner of a single color used for printing C, M, Y and K, where the amounts of individual toners and respective glossiness of the C, M, Y and K are utilized in the estimation step (see, e.g., page 13, lines 1-5 and lines 15-22 of the specification).

In the pending rejection, the Examiner asserts that Nami discloses, in Fig. 22 and at col. 2, lines 7-21 and lines 52-63, the foregoing claimed glossiness estimation step. However, contrary to the conclusion set forth in the pending rejection, at the cited portion, Nami merely discloses a full color human figure that is color-reproduced in such a manner that the skin (e.g., yellow + magenta),

the clothes (yellow), the apple (magenta + yellow) and the muscat (cyan + yellow) are reproduced by using the respective color toners, where the surface of each of the images displays a high glossiness. As such, Nami is silent to estimating the glossiness of the mixed coloring materials (e.g., yellow + magenta) by using the glossiness obtained for each of the individual coloring materials (e.g., by using the glossiness of yellow and the glossiness of magenta individually). Indeed, it would appear that Nami only discloses displaying a high glossiness image of the combined coloring materials, and does not disclose or suggest determining the glossiness of the combined coloring materials by utilizing the glossiness of each of the individual coloring materials. Sugimoto, on the other hand, is silent with regard to the aforementioned feature, and therefore does not cure these defects of Nami.

Furthermore, claims 2 and 3 recite a coloring material combination determining step for determining a combination of the coloring materials with respect to variation of glossiness based on the relations obtained in the first through third relation obtaining steps. However, for at least the same reasons discussed above, Nami is silent with regard to determining a combination of the colors with respect to their respective glossiness variation. Indeed, Nami does not appear to discuss or recognize the glossiness of each of cyan, magenta and yellow, because the glossiness is changed by changing the rate of the black color generation (see, col. 6, lines 18-25 and col. 8, lines 5-11), let alone determining a color combination with respect to each of their glossiness variation. Sugimoto, on the other hand, merely discloses the relationship between the glossiness and the deposition amount of each color toner, and does not disclose or suggest determining a combination of cyan, magenta, yellow and black toners with respect to their respective glossiness. Additionally, Sugimoto does not provide any factual evidence that the alleged relation obtaining step of Sugimoto

can be applied to the alleged coloring material combination determining step of Nami so as to arrive at the claimed invention

Thus, at a minimum, Nami or Sugimoto, taken alone or in combination, fails to disclose or suggest a method of color correction for an image-outputting device or a method of color correction for an image-outputting device for outputting an image using a combination of four primary printing colors, the method comprising a glossiness estimation step for estimating glossiness where two or more of the coloring materials are mixed by using the glossiness obtained for each of the coloring materials, and a coloring material combination determining step for determining a combination of the coloring materials with respect to variation of glossiness based on the relations obtained in the first through third relation obtaining steps, as recited by claims 2 and 3.

Claim 4

Claim 4 recites in-part a method of color correction used in outputting a color image on a recording paper by superimposing a plurality of color materials, the method comprising the steps of adjusting the total amount of the coloring materials into a match with a threshold and adopting the threshold as a reference table value, if the threshold in the reference table value is smaller than the total amount of the coloring materials, and adopting the total amount of the coloring materials as it is, as a reference table value, if the threshold is greater than the total amount of the coloring materials.

In accordance with one embodiment of the present invention, a sum total SUM of the CMYK values C1ijk, M1ijk, Y1ijk and K1ijk is derived and compared with a threshold value T, so that if the threshold value T is smaller than the sum total SUM, a standardization process is performed such that the sum total SUM of the CMYK values is adjusted to equal to the threshold

value T, or if the threshold value T is greater than the sum total SUM, reference table values are established by adopting the CMYK values C1ijk, M1ijk, Y1ijk and K1ijk (see, e.g., page 18, lines 5-29 of the specification). As a result, the present invention advantageously adjusts the total amount of the coloring materials so as to obtain a desirable color image (see, e.g., page 19, lines 6-10 of the specification).

In the pending Office Action, the Examiner asserts that Nami discloses, in Figs. 6-7, col.7, lines 45-66, the foregoing claimed step of adjusting the total amount of the coloring materials into a match with a threshold and adopting the threshold as a reference table value, if the threshold in the reference table value is smaller than the total amount of the coloring materials.

However, at the cited portion, Nami merely discloses a CPU that adjusts the rate of the black color generation in accordance with the measured value of the glossiness so that the same glossiness as that of the original document can be reproduced. Thus, contrary to the conclusion set forth by the Examiner, Nami appears silent with regard to any total amount of the coloring materials or threshold value, let alone equating (i.e., adjusting into a match) the total amount of the coloring materials with the threshold value, or adopting the threshold as a reference table value if the threshold value is smaller than the total amount of the coloring materials.

Furthermore, the Examiner asserts that Nami discloses, in Fig. 6 and col. 8, lines 1-16, the foregoing claimed step of adopting the total amount of the coloring materials as the reference table value, if the threshold is greater than the total amount of the coloring materials.

However, contrary to the conclusion set forth in the pending rejection, at the cited portion, Nami only discloses that the rate of the black color generation is made to be constant regardless of the density of the color (see, col. 8, lines 5-9). As such, it does not appear that Nami discloses or suggests adopting any total amount of the coloring materials as a reference table if the threshold

value T is greater than the total amount of the coloring materials in the manner alleged by the Examiner. Sugimoto is silent with regard to the aforementioned features, and therefore does not cure these defects of Nami. Thus, Nami and Sugimoto, taken alone or in combination, do not disclose or suggest the claim elements recited by claim 4.

If the Examiner continues to maintain the arguments with respect to claim 4 in the next Office Action, it is respectfully requested that the Examiner address and identify how the claimed threshold or total amount of coloring materials is adopted in Nami if the threshold is smaller or greater than the total amount of the color components, respectively.

Accordingly, as each and every limitation must be either disclosed or suggested by the cited prior art in order to establish a *prima facie* case of obviousness (see, M.P.E.P. § 2143.03), and Nami and Sugimoto, taken alone or in combination, fail to do so, it is respectfully submitted that claims 1, 2, 3 and 4 are patentable over the cited prior art.

III. **All Dependent Claims Are Allowable Because The Independent Claims From Which They Depend Are Allowable**

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as independent claims 1, 2, 3 and 4 are patentable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also in condition for allowance.

For all of the foregoing reasons, it is submitted that dependent claims 5 and 6 are patentable over the cited prior art. Accordingly, it is respectfully submitted that the rejections of claims 1-6 under 35 U.S.C. § 103 have been overcome.

IV. Conclusion

Accordingly, it is urged that the application is in condition for allowance, an indication of which is respectfully solicited.

If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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